yazzoom
creating value from data

Artificial Intelligence for Industrial Applications

Since 2011, Yazzoom offers solutions for improving industrial company processes using artificial intelligence, machine learning and data analytics. In this brochure you'll find descriptions of customer projects.

AI-powered Anomaly Detection for Combined Heat and Power plants

For its real-time cloud-based data monitoring platform OneBoard, which is also used by its customers, Engie Laborelec wanted to integrate an advanced anomaly detection technology. It had to be self-learning, flexible to configure and simple and efficient enough to be used by its power generation experts without a regular support from data scientists.

Yazzoom's solution, Yanomaly, was chosen by Engie Laborelec after benchmarking the reliability of the detection of anomalies against competitor solutions.

The flexibility of integrating Yanomaly into their existing architecture without the need to switch to another data monitoring platform was another deciding factor.

Valorisation of Flexibility of Energy Production

A combined heat and power plant Is used at Umicore cobalt and germanium production unit in Olen. Because of the scale of the installations, Umicore is active on the electricity intraday market and can buy, sell or produce it for its own usage.

To maximize the value of this possibility, Yazzoom leveraged data analytics, predictive modelling, advanced process control and optimization algorithms: using a prediction of future electricity prices while taking into account production needs and after analysing and optimizing the flexibility and stability of the heat and power generation units, a powerful optimization algorithm dynamically now controls the CHP, decides which energy producer to use and decides to buy or sell electricity.

Improved OEE of production lines with ML-based data analytics tools

Tenneco produces car components on advanced automated assembly lines. Yazzoom's software tool Yanomaly is used to detect and diagnose technical deficiencies and throughput bottlenecks in these complex machines that feature multiple-step processes.

By analysing the PLC signals, the tools help Tenneco detect early signs of issues causing low throughput or future failures and to faster diagnose the root cause of performance issues affecting throughput.

With better, more detailed, analytics and reporting of the line functioning, data-driven decision-making improves the operations and maintenance of the equipment.

This way, Tenneco can ensure higher equipment availability and more consistent asset performance.

Batch Chemistry Process Monitoring powered by AI

To guarantee perfect quality and process safety, Agfa Specialty Products uses monitoring systems for their production units.

As an additional layer of security, on top of human-written rules and alarm systems, they decided to leverage the latest advances in Machine Learning and Artificial Intelligence for anomaly detection by integrating Yanomaly into their monitoring system.

Yanomaly was chosen after proving that it could provide early warning of process issues several weeks earlier than the existing tools, thus also enabling predictive maintenance.

Predictive models for product quality and production

Paper machines produce sheets more than 10 meters wide at speeds up to 120km/h. Moisture content is a crucial quality factor, but physical sensors for it are not always reliable and can take up to 5 minutes for give reliable readings at the start of production.

VPK tasked Yazzoom with developing a machine learning-based predictive model for the moisture content of the paper, using the data generated by the production line, such as temperature, pressure and other signals from 120 different sensors.

This "virtual sensor" as they are commonly called takes over the physical measurement devices until they are reliable, thus avoiding having to recycle bad quality paper at great cost, and as such saving energy.

Water Distribution Networks Monitoring & Usage Insights

The city of Antwerp's intricate network of pipes, pumps and valves delivers water to thousands of households and industrial customers. Equipped with both traditional SCADA systems and IoT sensors, it generates lots of data.

Yanomaly and custom machine learning-based predictive models allow Water-link to get insights on the usage patterns, system behaviour and key information for sensor network extension.

► Machine Data Analytics & Anomaly Detection YANOMALY

Yanomaly is a specialized software solution for extracting valuable insights and actions from sensor data and event logs of machines and production lines by means of automatic AI-based detection of anomalies.
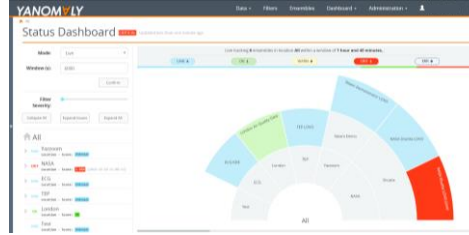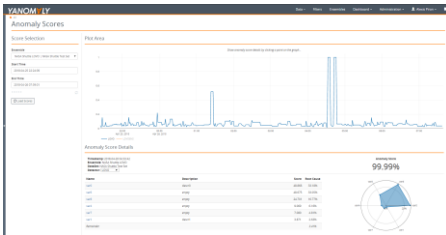
Built to be interfaced or integrated with existing data monitoring or IoT platforms, it is used to (remotely) monitor machines and have an early detection of technical issues, speed up (remote) diagnostics of the root cause of machine failure and reduce the mean time to repair, and more.

► Predictive Models

YASENSE ML is a software tool suite to develop and deploy predictive models based on machine learning in an industrial setting. It is used by Yazzoom's engineering and data science experts in industrial data analytics and advanced control projects.

► Industrial Data Analytics & APC services

Yazzoom realizes projects for optimizing industrial production processes, increasing stability and safety, solving quality issues, increasing throughput, reducing energy and material cost by leveraging expertise in Advanced Process Control, Artificial Intelligence and Data Mining.